

Subpart QQ—National Emission Standards for Surface Impoundments

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§63.940 Applicability.

The provisions of this subpart apply to the control of air emissions from surface impoundments for which another subpart of 40 CFR parts 60, 61, or 63 references the use of this subpart for such air emission control. These air emission standards for surface impoundments are placed here for administrative convenience and only apply to those owners and operators of facilities subject to the other subparts that reference this subpart. The provisions of 40 CFR part 63, subpart AA—General Provisions do not apply to this subpart except as noted in the subpart that references this subpart.

§63.941 Definitions.

All terms used in this subpart shall have the meaning given to them in the Act and in this section. If a term is defined in both this section and in another subpart that references the use of this subpart, then the definition in this subpart shall take precedence when implementing this subpart.

Closure device means a cap, hatch, lid, plug, seal, valve, or other type of fitting that prevents or reduces air emissions to the atmosphere by blocking an opening in a surface impoundment cover when the device is secured in the closed position. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring loaded pressure relief valve).

Cover means an air-supported structure, rigid roof, or other device that prevents or reduces air pollutant emissions to the atmosphere by forming a continuous barrier over the material managed in a surface impoundment. A cover may have openings (such as access hatches) that are necessary for operation, inspection, maintenance, and repair of equipment in the surface impoundment on which the cover is used.

No detectable organic emissions means no escape of organics to the atmosphere as determined using the procedure specified in § 63.944(a) of this subpart.

Regulated-material means the material (e.g. waste, wastewater, off-site material) required to be managed in containers using air emission controls in accordance with the standards specified in this subpart.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug,

or any other type of device which functions exclusively to prevent physical damage or permanent deformation to the surface impoundment air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath the surface impoundment cover such as during filling of the surface impoundment or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

Surface impoundment means a unit that is a natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquids. Examples of surface impoundments include holding, storage, settling, and aeration pits, ponds, and lagoons.

§63.942 Standards—Surface impoundment floating membrane cover.

(a) This section applies to owners and operators subject to this subpart and controlling air emissions from a surface impoundment using a floating membrane cover.

(b) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(1) The floating membrane cover shall be designed to float on the liquid surface during normal operations, and form a continuous barrier over the entire surface area of the liquid.

(2) The cover shall be fabricated from a synthetic membrane material that is either:

(i) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(ii) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (b)(2)(i) of this section; and chemical and physical properties that maintain the material integrity for the intended service life of the material.

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(3) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(4) Except as provided for in paragraph (b)(5) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(5) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(6) The closure devices shall be made of suitable materials that will minimize exposure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(c) Whenever a regulated-material is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(1) Opening of closure devices or removal of the cover is allowed at the following times:

(i) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(ii) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(2) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the pressure in the vapor

headspace underneath the cover in accordance with the cover design specifications. The device shall be designed to operate with no detectable organic emissions as defined in § 63.941 of this subpart when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the cover vapor headspace pressure is within the pressure operating range determined by the owner or operator based on the cover manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

(3) Opening of a safety device, as defined in § 63.941 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(d) The owner or operator shall inspect the floating membrane cover in accordance with the procedures specified in § 63.946(a) of this subpart.

§ 63.943 Standards—Surface impoundment vented to control device.

(a) This section applies to owners and operators subject to this subpart and controlling air emissions from a surface impoundment using a cover and venting the vapor headspace underneath the cover through a closed-vent system to a control device.

(b) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(1) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(2) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in § 63.945(a) of this subpart.

(3) The cover and its closure devices shall be made of suitable materials that will minimize ex-

posure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed.

(4) The closed-vent system and control device shall be designed and operated in accordance with the requirements of § 63.693 in 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutant Standards from Off-Site Waste and Recovery Operations.

(c) Whenever a regulated-material is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(1) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(i) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(ii) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(2) Opening of a safety device, as defined in § 63.941 of this subpart, is allowed at any time conditions require it to do so to avoid an unsafe condition.

(d) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the procedures specified in § 63.946(b) of this subpart.

§ 63.944 [Reserved]

§ 63.945 Test methods and procedures.

(a) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart.

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak

interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the surface impoundment contains a material having an organic HAP concentration representative of the range of concentrations for the regulated-materials expected to be managed in the surface impoundment. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the regulated-material placed in the surface impoundment, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air); and

(ii) A mixture of methane in air at a concentration of approximately, but less than 10,000 ppmv.

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(b) [Reserved]

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§ 63.946 Inspection and monitoring requirements.

(a) Owners and operators that use a surface impoundment equipped with a floating membrane cover in accordance with the provisions of § 63.942 of this subpart shall meet the following requirements:

(1) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(2) The owner or operator shall perform the inspections following installation of the floating membrane cover and, thereafter, at least once every year.

(3) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c) of this section.

(4) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.947(a)(2) of this subpart.

(b) Owners and operators that use a surface impoundment equipped with a cover and vented through a closed-vent system to a control device in accordance with the provisions of § 63.943 of this subpart shall inspect the air emission control equipment as follows:

(1) The owner or operator shall visually inspect the cover in accordance with the following requirements:

(i) The cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the interface of the roof edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform the inspections following installation of the cover and, thereafter, at least once every year.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in § 63.947(a)(2) of this subpart.

(2) The owner or operator shall inspect and monitor the closed-vent system and the control device in accordance with the requirements specified in § 63.693 in 40 CFR part 63 subpart DD—National Emission Standards for Hazardous Air Pollutant Standards from Off-Site Waste and Recovery Operations.

(c) The owner or operator shall repair all detected defects as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (c)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative surface impoundment or tank capacity is available at the site to accept the regulated-material normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect at the next time the process or unit that is generating the regulated-material managed in the surface impoundment stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(3) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in § 63.947 of this subpart.

§ 63.947 Recordkeeping requirements.

(a) Each owner or operator shall prepare and maintain the following records:

(1) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment.

(2) A record for each inspection required by § 63.946 of this subpart that includes the following information: a surface impoundment identification number (or other unique identification description as selected by the owner or operator) and the date of inspection.

(3) The owner or operator shall record for each defect detected during inspections required by § 63.946 of this subpart the following information: the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of § 63.946(c)(2) of this section, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(b) Owners and operators that use a surface impoundment equipped with a fixed-roof and vented through a closed-vent system to a control device

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in accordance with the provisions of § 63.943 of this subpart shall prepare and maintain the records required for the closed-vent system and control device in accordance with the requirements of § 63.693 in 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutant Standards from Off-Site Waste and Recovery Operations.

§ 63.948 Reporting requirements.

Owners and operators that use a surface impoundment equipped with a fixed-roof and vented

through a closed-vent system to a control device in accordance with the provisions of § 63.943 of this subpart shall prepare and submit to the Administrator the reports required for closed-vent systems and control devices in accordance with the requirements of § 63.693 in 40 CFR part 63, subpart DD—National Emission Standards for Hazardous Air Pollutant Standards from Off-Site Waste and Recovery Operations.